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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,415

06/02/2006

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EXAMINER

BROWN, PHYLLIS M

ART UNIT

PAPER NUMBER

3753

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,415	<b>Applicant(s)</b> MAIER ET AL.	
	<b>Examiner</b> MACADE BROWN	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

This office action is responsive to the amendment filed on 1/27/09. As directed by the amendment: claim 10 has been amended, claims 1-9 have been cancelled, and no new claims have been added. Thus, claims 10-29 are presently pending in this application.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the valve element including a cone element must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18, 21, and 28 recites the limitation "the first conduit portion" and "the second conduit portion" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lorenz (3, 198, 214).**

Regarding claims 10 and 13, Lorenz teaches an inlet valve assembly including a valve element 11 (fig. 4) disposed in a valve chamber and fluid conduit 6/9 (fig. 2/fig. 4) adjoining the valve chamber on the upstream side, the improvement wherein the fluid conduit 6/9 has a substantially constant width and is embodied such that a rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows

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toward the valve chamber, without a constriction (no constriction within the swirling region of the fluid) of this fluid stream being produced; including a cone element 11 as the valve element.

**Claims 10-12, and 16-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Nozaki (3, 854, 468).**

Regarding claims 10-12, and 16-27, Nozaki teaches an inlet valve assembly including a valve element 42 (fig. 4) disposed in a valve chamber 32 and fluid conduit (conduit formed by 18 and the lateral extension of duct 30; see fig. 5 below) adjoining the valve chamber 32 on the upstream side, wherein the fluid conduit has a substantially constant width and is embodied such that a rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the valve chamber, without a constriction of this fluid stream being produced; wherein the fluid conduit includes a first conduit portion 18 and a second conduit portion (fig. 5 below) adjoining the first conduit portion 18, the longitudinal axes of the first and second conduit portions being at an angle  $< 180$  [deg.] to one another, and the longitudinal axis of the first conduit portion 18 being laterally offset from the longitudinal axis of the second conduit portion; wherein the longitudinal axes of the first and second conduit portions are at least approximately at a right angle to one another (see fig. 5); wherein the first and second conduit portions, in cross section, have at least approximately the same radius, and wherein the lateral offset of the longitudinal axes is greater than the radius (see 4 below); further including a transition region (see fig. 4 below) between the first conduit portion 18 and the second conduit portion (Note: the patentability of a

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product does not depend on its method of production. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process, i.e.

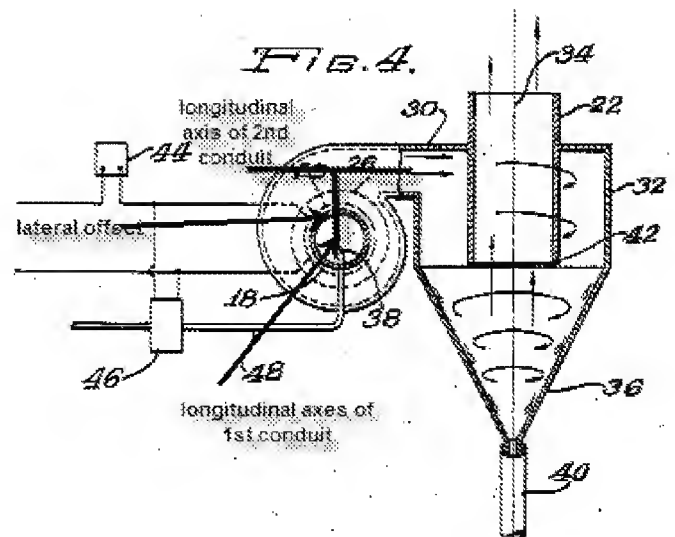
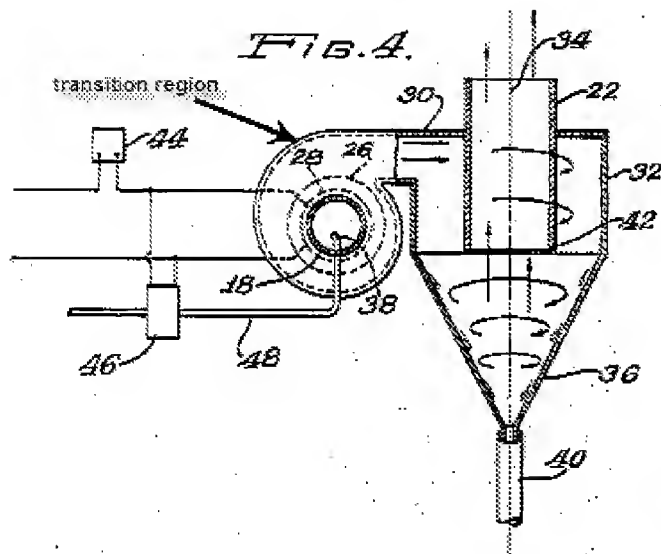
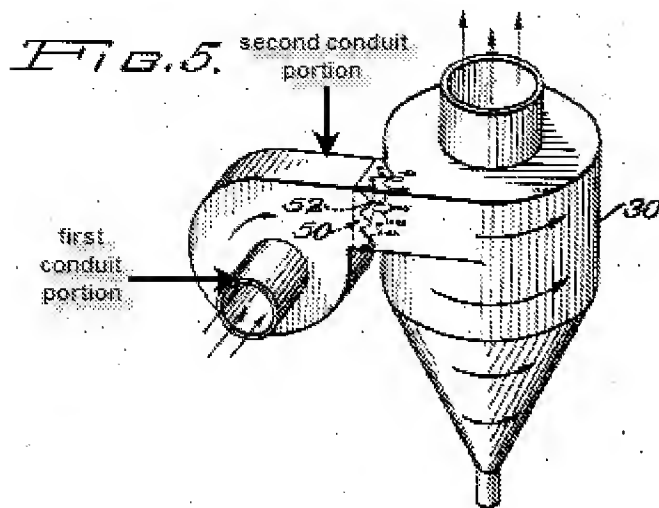
electrochemical removal of material. *In re Thorpe*, 777 F.2d 695, 698,227 USPQ

964,966 (*Fed. Cir. 1985*)); wherein the transition region includes a wall that is curved

from the first conduit portion 18 to the second conduit portion; wherein the first conduit

portion 18 extends no more than an axially insignificantly distance past the second

conduit portion.



**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki (3, 854, 468) and Matsubara (6, 475, 256).**

Regarding claims 13-15, Nozaki teaches essentially all claimed features, but fails to disclose a ball or cone element as the valve element.

Matsubara teaches a fluid conduit 2 (fig. 6) and chamber 11, and a valve element 5 disposed in the chamber 11, wherein the valve element is a cone, to increase swirling flow and improve separation efficiency.

It would have been obvious to one of ordinary skill in the art, at the time of invention, to employ in Nozaki a valve element disposed in the chamber, wherein the element is a cone, as taught by Matsubara, for the purpose of inducing swirling or vortexing flow in the annular passage and improve separation efficiency.

**Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki (3, 854, 468).**

Regarding claims 28 and 29, Nozaki discloses essentially all claimed features, but does not disclose the longitudinal axis of the first conduit portion and the longitudinal axis of the second conduit portion form an angle  $>90$  [deg.].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a first and second conduit portion  $>90$  [deg.], since it has been held that where the general conditions of a claim are disclosed in the prior art,



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discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

### ***Response to Arguments***

Applicant's arguments with respect to claim 10 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MACADE BROWN whose telephone number is (571)270-5428. The examiner can normally be reached on Mon-Thurs, 8am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MACADE BROWN /  
Examiner, Art Unit 3753

/Stephen M. Hepperle/  
Primary Examiner, Art Unit 3753